



Station Avenue Corridor Study

FINAL REPORT

MARCH 2025



Prepared by Cape Cod Commission Staff.

Station Avenue Corridor Planning Study

FINAL REPORT | MARCH 2025

CAPE COD COMMISSION PROJECT TEAM

Project Coordinator: David Nolan, Senior Transportation Planner

Colleen Medeiros, Transportation Program Manager

Evan Costa, Transportation Engineer

Joyia Smikle, Transportation Planner

Anne Reynolds, GIS Director

Elisabeth Kellam, Community Design Planner

TOWN OF YARMOUTH STAFF

Jeff Colby, Director, Department of Public Works

Kathy Williams, Town Planner

Amanda Lima, Town Engineer

PROJECT FUNDING

This project was funded by the Massachusetts Department of Transportation and the Federal Highway Administration under the Federal Fiscal Year 2023 Unified Planning Work Program.

The information depicted on the maps and figures in this report are for planning purposes only. They are not adequate for legal boundary definition, regulatory interpretation, or parcel level analysis. They should not substitute for actual on-site survey, or supersede deed research. Unless otherwise noted, the source for road data and information for maps and figures in this report is the Massachusetts Department of Transportation (MassDOT) (2015) and Cape Cod Commission planimetric data (2014). Unless otherwise noted, parcel data is from a Cape Cod Commission regional parcel data set (2018).

Station Avenue Corridor Planning Study

A REVIEW OF EXISTING CONDITIONS, PUBLIC OUTREACH AND ALTERNATIVE
ANALYSIS ALONG STATION AVENUE IN YARMOUTH

CONTENTS

Executive Summary.....	6
Station Ave Short to Mid-Term Recommendations.....	7
Station Ave Long-Term Recommendations.....	7
Next Steps.....	8
Introduction	9
Study Goals.....	9
Study Area.....	9
Previous and On-Going Studies.....	11
Study Process.....	11
Outreach.....	12
Existing Conditions	13
Site Visits.....	13
Zoning and Land Use	15
Transit	18
Dennis-Yarmouth Regional School District.....	19
Speed Limits	20
Crash History	21
Traffic Volumes.....	22
Existing Traffic Operations	24

CAPE COD COMMISSION

3225 Main Street • P.O. Box 226 • Barnstable, MA 02630

508-362-3828 • Fax: 508-362-3136 • Email: frontdesk@capecodcommission.org

www.capecodcommission.org

Public Informational Meeting.....	25
Roadway Safety Audit Recommendations.....	26
Alternative Development	28
Future Traffic Volumes	28
Alternative Identification.....	29
Public Review of Alternatives	30
Summary of Alternatives.....	31
Alternative Refinement.....	31
Station Avenue at Route 6 Eastbound Ramp.....	34
Station Avenue at Route 6 Westbound Ramp	36
Station Avenue at White's Path and Workshop Road	38
Station Avenue at Cape Cod Rail Trail.....	39
Station Avenue at Old Townhouse Road	41
Station Avenue at Dennis-Yarmouth Regional School District.....	42
Station Avenue at Wood Road.....	45
Two-Way Left-Turn Lane Upgrades.....	46
Pedestrian and Bicycle Accommodation Alternatives.....	47
Other Alternatives	47
Recommendations and Next Steps.....	48
Short to Mid-Term Recommendations.....	48
Long-Term Recommendations.....	48
Next Steps.....	50
Appendices.....	51
Appendix A: Traffic Counts	51
Appendix B: Existing and Future Volume Models.....	51
Appendix c: Roundabout Analysis	51
Appendix d: Safe Routes to School Walk Audit	51

LIST OF FIGURES

Figure 1: Study Area and Roadway Jurisdiction.....	10
Figure 2: Outreach Materials for Public Meetings	12
Figure 3: Photos from Station Ave site visits.	14
Figure 4: Existing Zoning Map.....	15
Figure 5: Existing Land Use Map	16
Figure 6: Existing Multi-modal Accommodations	17
Figure 7: Dennis-Yarmouth Regional School District Aerial.....	19
Figure 8: Speed Limits.....	20
Figure 9: Crash History	21
Figure 10: Map of Traffic Counts Completed for the Corridor Study	23
Figure 11: Station Ave at White's Path/Workshop Road Crash Diagram	27
Figure 12: Traffic Signal Concept at Route 6 Eastbound Ramp at Station Ave	34
Figure 13: Roundabout Concept at Route 6 Eastbound Ramp at Station Ave	35
Figure 14: Traffic Signal Concept at Route 6 Westbound at Station Ave	36
Figure 15: Roundabout Concept at Route 6 Westbound at Station Ave.....	37
Figure 16: Reconstruction Concept at the Station Ave at White's Path/Workshop Road	38
Figure 17: At-Grade Pedestrian Hybrid Beacon on Station Ave	39
Figure 18: Cape Cod Rail Trail Off-Ramp Route 134 Dennis.....	40
Figure 19: Existing Railroad Right-of-Way on Station Avenue	40
Figure 20: Minor Reconstruction Concept at Station Ave at Old Townhouse Road	41
Figure 21: Roundabout Concept at the Station Ave at Old Townhouse Road Intersection- Not Recommended	42
Figure 22: Left-Turn Lane on Station Ave at Dennis-Yarmouth Regional High School	43
Figure 23: Station Ave at Wood Road Intersection	45
Figure 24: Turn Lane Concept Replacing the Two-Way Left-Turn Lane	46

Executive Summary

Station Avenue (Ave) is a critical north-south transportation corridor in the Town of Yarmouth that currently experiences regular traffic congestion and lacks adequate accommodations for pedestrians and bicyclists. Station Ave provides access to and from Route 6 on the northern end of the corridor and access to several schools, including the Dennis-Yarmouth Regional High School to the south. The corridor is also host to numerous businesses and a Cape Cod Rail Trail trailhead. The Massachusetts Department of Transportation (MassDOT) owns and maintains the Route 6 ramps and interchanges, while the Town of Yarmouth owns and maintains Station Ave and the remaining roadways within the study area. Station Ave and the approaching Route 6 interchange roadways have been identified as a priority for investigation due to existing congestion, safety and multi-modal issues. The purpose of this study is to develop alternatives that will improve safety, while reducing congestion and accommodating all users, including vehicles, pedestrians, bicyclists and transit riders.

A detailed review of existing conditions and a safety analysis was carried out for the Station Ave corridor. Extensive data was collected, including traffic counts and a comprehensive inventory of the roadways and existing zoning and land uses of the surrounding area. In addition, a Roadway Safety Audit (RSA) was performed for the intersection of Station Ave at White's Path/Workshop Road in October 2023 to identify potential short- and long-term solutions to improve safety at this high crash location.

A comprehensive public outreach plan was executed to solicit input on the existing issues in January 2023 and again in December 2023 to obtain feedback on potential alternatives. Public feedback on the alternatives placed an emphasis on improving safety, particularly in the area of the Route 6 ramps.

Based on a technical review, in consultation with Town staff, and feedback from a public review of the alternatives, the improvement options were refined and organized into the following sets of key short- and long-term recommendations. Further details on the timeframe, cost and potential benefits for each of the recommendations are listed on the following pages. With the benefit of active participation by members of the community, a host of potential improvement options were developed for the corridor. Based on a technical review and feedback from a public review of the alternatives, these improvements options were refined and organized into the following sets of key short- and long-term recommendations.

STATION AVE SHORT TO MID-TERM RECOMMENDATIONS

- Convert the two-way left-turn lane (TWLTL) into turn pockets with hatched areas to discourage motorist travel in the center of the roadway
- Improve lighting at the White's Path/Workshop Road intersection, under the Route 6 overpass, and at the Route 6 ramp intersections
- Install an at-grade crossing with pedestrian hybrid beacon at the Cape Cod Rail Trail parking lot
- Close the northern Stop and Shop driveway to entering vehicles and only allow right out turns
- Install a Rectangular Rapid Flashing Beacon (RRFB) at the crosswalk in front of Dennis-Yarmouth Regional High School and St. Pius X.
- Consider an all-way stop at the Wood Road intersection
- Perform vegetation trimming on the southeast corner of the Wood Road intersection to improve sight lines
- Relocate the utility pole on the northwest corner of the CVS plaza driveway to improve sight lines
- Improve the sidewalk in front of Mitsubishi to include a curb to improve pedestrian safety

STATION AVE LONG-TERM RECOMMENDATIONS

- Install a traffic signal or roundabout at Route 6 eastbound ramp and Station Avenue
- Install a traffic signal or roundabout at Route 6 westbound ramp and Station Avenue
- Reconstruct the White's Path/Workshop Road intersection to remove the channelized right-turn lanes and improve the pedestrian crossings
- Remove the channelized right-turn lane on Station Avenue on the northbound approach at the Old Townhouse Road intersection to reduce pedestrian crossing distance
- Lengthen the right turn lane southbound on Station Avenue at the Old Townhouse Road intersection
- Construct a new path connection from the Cape Cod Rail Trail to the west side of Station Ave on using the existing railroad right-of-way
- Construct a sidewalk along the west side of Station Avenue from the Route 6 westbound ramp to Old Townhouse Road
- Construct a shared use path along the east side of Station Avenue from the Route 6 westbound ramp to Old Townhouse Road

- Extend the shared use path in front of Station Ave Elementary School northerly to Haywood Ave and southerly to Regional Avenue along the Dennis-Yarmouth Regional High School frontage
- Consider a new transit circulator route from Route 28 to local business plazas on Station Ave

Understanding that transportation and land use planning are inextricably linked, it may appropriate to refine or revise long-term recommendations as additional information about redevelopment activities in the area becomes available. The Cape Commission is available to discuss long-term recommendations with MassDOT, the Town, and other stakeholders in the area including the business community. Ultimately, major transportation investments should both benefit the travelling public and serve to support and enhance the vitality of the community.

NEXT STEPS

The next steps would focus on collaboration between the Town of Yarmouth and MassDOT to prioritize implementation of the short-term improvements to improve safety on Station Ave and the Route 6 interchanges and the other study area intersections. Plans for long-term improvements can also be initiated to begin the planning process. Staff of the Cape Cod Commission are available to assist in these efforts. A future meeting between MassDOT, the Town and Commission staff can be set up in the near future to discuss next steps for implementation and funding strategies for the recommendations from this study.



Introduction

Station Avenue (Ave) is a major north-south transportation route in the Town of Yarmouth. Station Ave provides access to and from Route 6 (Exit 75 – Old Exit 8) on the northern end of the corridor and access to several Dennis-Yarmouth Regional Schools to the south. The corridor is host to numerous businesses and shopping plazas as well as a Cape Cod Rail Trail trailhead. Station Ave provides the most direct access to Route 6 for the Massachusetts State Police barracks in South Yarmouth. School buses, freight trucks, and landscape trucks are frequently observed along Station Ave as well as a moderate number of cyclists and pedestrians. Station Ave is used by all types of roadway users, creating unique challenges and opportunities for the corridor.

STUDY GOALS

The purpose of this study is to develop alternatives that will improve safety, while reducing congestion and accommodating all users, including vehicles, pedestrians, bicyclists, and transit riders.

STUDY AREA

As shown in Figure 1, the study area includes Station Ave from the Exit 75 interchange intersections to the north and continues south to Wood Road in South Yarmouth. There are several major intersections that are within the study area, including:

- Route 6 Exit 75 Eastbound (EB) Ramp
- Route 6 Exit 75 Westbound (WB) Ramp
- White's Path/Workshop Road
- Stop & Shop Plaza
- CVS/Cape Cod Rail Trail
- Old Townhouse Road
- Dennis-Yarmouth Regional High School (DYHS)/Long Pond Road
- Regional Avenue
- Wood Road



Figure 1: Study Area and Roadway Jurisdiction

PREVIOUS AND ON-GOING STUDIES

A comprehensive look at previous studies was performed during the existing conditions review. As part of this review, the following studies, plans, and recently completed construction projects were reviewed:

- Road Safety Audit (RSA): Union Street – Station Avenue at U.S. Route 6 Ramps (2011)
- Dennis-Yarmouth Intermediate Middle School project
- Route 6 ramp repaving and crossing improvements
- Station Avenue Cape Cod Rail Trail Bridge construction

STUDY PROCESS

The study began with the development of a project scope in the winter of 2022 for consideration of funding under the Cape Cod Unified Planning Work Program (UPWP) for Federal Fiscal Year 2023. The project scope and funding, from the Massachusetts Department of Transportation, was approved in Spring 2022. Following data collection and background research, the project kicked off with a meeting with Town of Yarmouth staff in November 2022. In addition, a public participation plan was developed for this study with goals of:

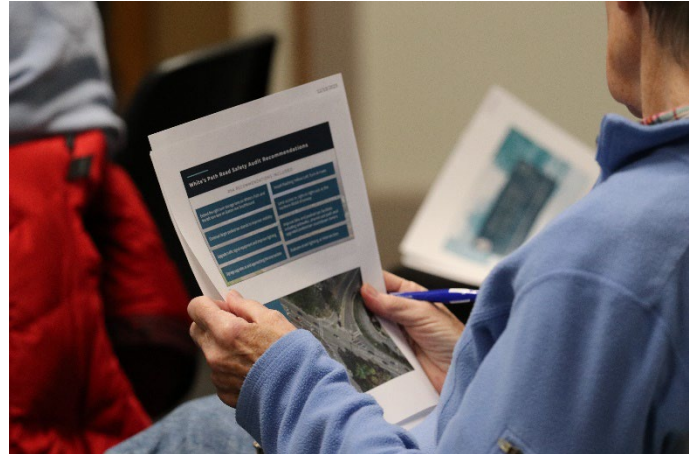
- Gathering input from community stakeholders and the public to establish a vision for the corridor
- Soliciting feedback on potential alternatives

As formalized in the project scope of work, the study process included two public meetings.

OUTREACH

To solicit input and to alert stakeholders to the public meetings on the project, Commission staff conducted targeted outreach campaigns. These included press releases, posting flyers, and posting social media advertisements in conjunction with the Town of Yarmouth about the public input meeting and the alternatives presentations. A webpage was created where meeting recordings and project updates were posted as applicable. For stakeholders that could not attend the public meetings, materials were made available on the website. Commission staff also spoke on the phone, in person, and via email with stakeholders that could not attend the meetings but wanted to provide comments and input on the project. Figure 2 shows an example of the outreach materials.

Commission staff also spoke at the Yarmouth MLS Realtor meeting on Tuesday February 7, 2023 to discuss the project and seek feedback from members of the group.



Station Avenue Corridor Study

Town of Yarmouth – Hybrid Public Input Meeting



Hybrid Public Input Meeting
Wednesday, January 25, 2023, at 6:00 PM
Yarmouth Town Hall, Hearing Room (1146 Route 28)

Virtual Meeting Option:
<https://cccom.link/StationAveCorridor>
Phone: 301 715 8592
Meeting ID: 884 5104 4857

In collaboration with the Town of Yarmouth, the Cape Cod Commission is studying Station Avenue between the Route 6 interchange and Regional Avenue. A public input meeting will be held to provide an overview of the study and have your voice heard. We want to understand the issues and opportunities you observe along Station Ave. Feedback from this meeting will be used in the development of potential improvement concepts. Concepts will look to improve safety for all users, reduce congestion and more. A second meeting will be scheduled to discuss the proposed alternatives. Participants are invited to attend in person or virtually.

For more information, please visit:
www.capecodcommission.org/StationAve

This meeting is accessible to people with disabilities. The Cape Cod Metropolitan Planning Organization (MPO) provides reasonable accommodations and/or language assistance free of charge upon request (including but not limited to interpreters in American Sign Language and languages other than English), assistive listening devices and alternate material formats, such as audio tapes, Braille and large print, as available. To request additional information about this commitment, or to file a complaint under Title VI or a related nondiscrimination provision, please contact the MPO's Title VI Coordinator by phone at (508)362-3828, Telecommunications Relay Services (TRS), dial 711 or email frontdesk@capecodcommission.org. Title VI Notice of Nondiscrimination: The Cape Cod MPO complies with Title VI of the Civil Rights Act of 1964 and related federal and state statutes and regulations. It is the policy of the Cape Cod MPO to ensure that no person or group of persons shall on the grounds of Title VI protected categories, including race, color, national origin, or under additional federal and state protected categories including sex, age, disability, sexual orientation, gender identity or expression, religion, creed, ancestry, veteran's status (including Vietnam-era veterans), or background, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity administered by the Cape Cod MPO. If this information is needed in another language, please contact the MPO's Title VI Coordinator by phone at (508)362-3136 or by e-mail at mheinenor@capecodcommission.org. Caso estas informações sejam necessárias em outro idioma, por favor, contate o Coordenador de Título VI da MPO pelo telefone 508-766-1229.

Figure 2: Outreach Materials for Public Meetings

Existing Conditions

To begin this study, Commission staff conducted an existing conditions analysis for the study area. During this analysis, staff performed a site visit (see Figure 3), collected data, reviewed the zoning, land use, bicycle and pedestrian accommodations, transit connections, traffic volumes, speed limits, and crash history for the study area.

SITE VISITS

During the course of the study, Commission staff conducted several site visits to the study area. These site visits helped Commission staff better understand the area, observe how the traffic functions, and view the area's character, opportunities, and constraints. During these site visits, staff noted congestion and confusion at several intersections, lack of bicycle accommodations, and numerous access points (curb cuts) along Station Avenue. However, there were many positive aspects to the area, including retail plaza destinations and services, direct access to the Cape Cod Rail Trail, access to Route 6, and the Dennis-Yarmouth Regional School District facilities.

In March of 2023 Commission staff met with the School Resource Officer (SRO) at DYHS to observe drop off trends at the high school and again in February 2024 with MassDOT, AECOM, Town and School staff for a Safe Routes to School Walk Audit.





Figure 3: Photos from Station Ave site visits.

ZONING AND LAND USE

Zoning and Land Use are shown in Figure 4 and Figure 5, respectively. There is a mix of Commercial and Residential zoning surrounding the corridor, while the Town owned parcels are identified as Exempt Properties in the Land Use map.

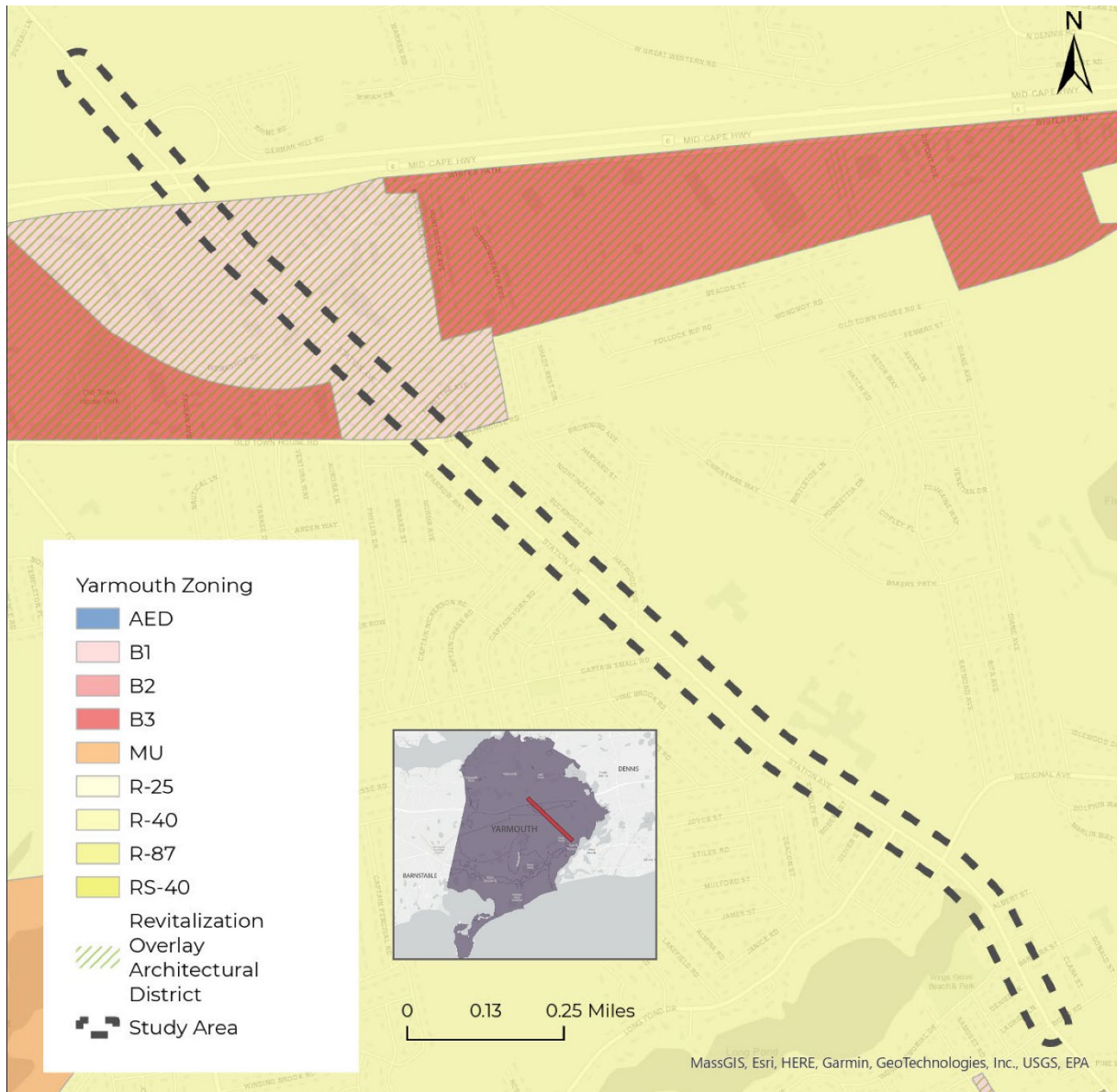


Figure 4: Existing Zoning Map



Figure 5: Existing Land Use Map

Figure 6 shows existing multimodal (bicycle, pedestrian, and transit) accommodations within the study area. Bicycle amenities along the corridor are highlighted by the Cape Cod Rail Trail (CCRT). Station Ave is currently the easternmost trailhead on the Cape Cod Rail Trail network, providing cyclists access to the Lower and Outer Cape with a separated bicycle facility. The CCRT crosses Station Ave above grade with a rail trail bridge constructed in 2015. Funding is programmed and construction is set to begin in early 2025 of the CCRT extension project into Hyannis, providing greater access for cyclists and pedestrians along Station Ave.

In addition to the CCRT, a portion of shared use path was recently installed in front of the new Dennis-Yarmouth Intermediate Middle School. There are sizeable shoulders in sections throughout the corridor that provide a space for cyclists to safely share the roadway with motorists, however, there are currently no designated bike lanes along the corridor.



Figure 6: Existing Multi-modal Accommodations

There is currently a sidewalk along Station Ave from the intersection of White's Path through the intersection of Old Townhouse Road along the east side of the roadway. The sidewalk along the east side of Station Ave picks up again at the intersection of Regional Ave and terminates at St. Pius X Church. Sidewalks along the west side of Station Ave are present from under the Route 6 overpass through the Route 6 eastbound ramp and terminates in front of Mitsubishi. The sidewalk on the west side picks up at the Old Townhouse Road intersection and continues through the corridor and connects to North Main Street and Route 28. There are some noted desire paths throughout the corridor (across from Stop N Shop and south of the sidewalk terminus south of Old Townhouse Road) that indicate a need for pedestrian facilities.

Within the study area, there are signalized pedestrian crossings at the following intersections:

- Station Ave at White's Path
- Station Ave at Old Townhouse Road
- Station Ave at Dennis-Yarmouth Intermediate Middle School

TRANSIT

While there is no Cape Cod Regional Transit Authority (CCRTA) routes currently servicing Station Ave, the CCRTA does provide Dial-A-Ride (DART) service, which will provide service to Station Ave as needed. The CCRTA also offers SmartDART service, which is an app based, on-demand ride-hail system that can provide service to Station Ave as necessary from anywhere in Yarmouth, Barnstable, and Dennis, or connect from a local transit route. Given the Dennis-Yarmouth Regional School District buildings along Station Ave there is significant school bus traffic during the school drop-off and pick-up hours.



DENNIS-YARMOUTH REGIONAL SCHOOL DISTRICT

The Dennis-Yarmouth Regional School District has several buildings located on Station Ave, including Dennis-Yarmouth Regional High School (DYHS), Station Avenue Elementary School and the new Dennis-Yarmouth Intermediate Middle School. Commission staff worked with the DYHS School Resource Officer to observe drop-off and pick-up trends at the schools and inspect the impact these periods have on the Station Ave corridor. A recommendation that was presented at the Alternatives public meeting included the Dennis-Yarmouth Regional High School working with MassDOT's Safe Routes to School program, and in February 2024 a Walk Audit conducted by the MassDOT Safe Routes to School Team was conducted along with Town Staff, the School Resource Officer, and Commission Staff.



Figure 7: Dennis-Yarmouth Regional School District Aerial

SPEED LIMITS

As seen in Figure 8, the speed limit along Station Ave varies from 30 to 40 miles per hour (MPH). The speed limit is 40 MPH through the Route 6 ramp area and through the White's Path intersection, where it drops to 35 MPH through the Old Townhouse Road intersection. The speed limit increases back up to 40 MPH from Old Townhouse Road to Haywood Road, then drops to 30 MPH from Haywood Road through the rest of the corridor. School zone speed limits must be observed when signs are flashing, which is 20 MPH.

Traffic counts including vehicle speeds were conducted as part of this project and can be found attached in the Appendix.



Figure 8: Speed Limits

CRASH HISTORY

Using data provided by MassDOT, Commission staff reviewed crash data along Station Ave from 2018-2020. In total, there were 162 reported crashes within the study area. Of those crashes, 35 resulted in an injury, 0 crashes resulted in a fatality and 6 crashes involved a non-motorist (bicycle or pedestrian). Approximately 70% of all crashes were either a rear-end or an angle collision, usually a result of congestion and left-turning vehicles.

A detailed crash analysis was conducted for the Station Ave and White's Path/Workshop Road intersection which included the preparation of a collision diagram and a Roadway Safety Audit (RSA). Based on the crash analysis, the White's Path/Workshop Road intersection experienced 15 crashes with 1 of the crashes resulting in an injury. The majority of the crashes were classified as a rear-end collision (53%) occurring at the approaches on Station Ave. The RSA was performed on October 5, 2023, and analyzed crash trends and causes while identifying short-term, mid-term and long-term countermeasures ranging from low cost to high-cost improvements. A final RSA report was prepared and is uploaded to both the CCC and MassDOT Safety webpages. MassDOT and the Town will look to implement some of the short-term, low-cost solutions in the near term. Additional details on the RSA are discussed later in this report under Alternative Development.

The crashes at the intersection of Station Ave at the Route 6 ramps were reviewed in the [2024 Cape Cod Commission Interchange Intersection Analysis](#) report and documented 39 crashes at the intersection of Station Ave at the Route 6 eastbound ramp and 16 crashes at the Station Ave at Route 6 westbound ramp.

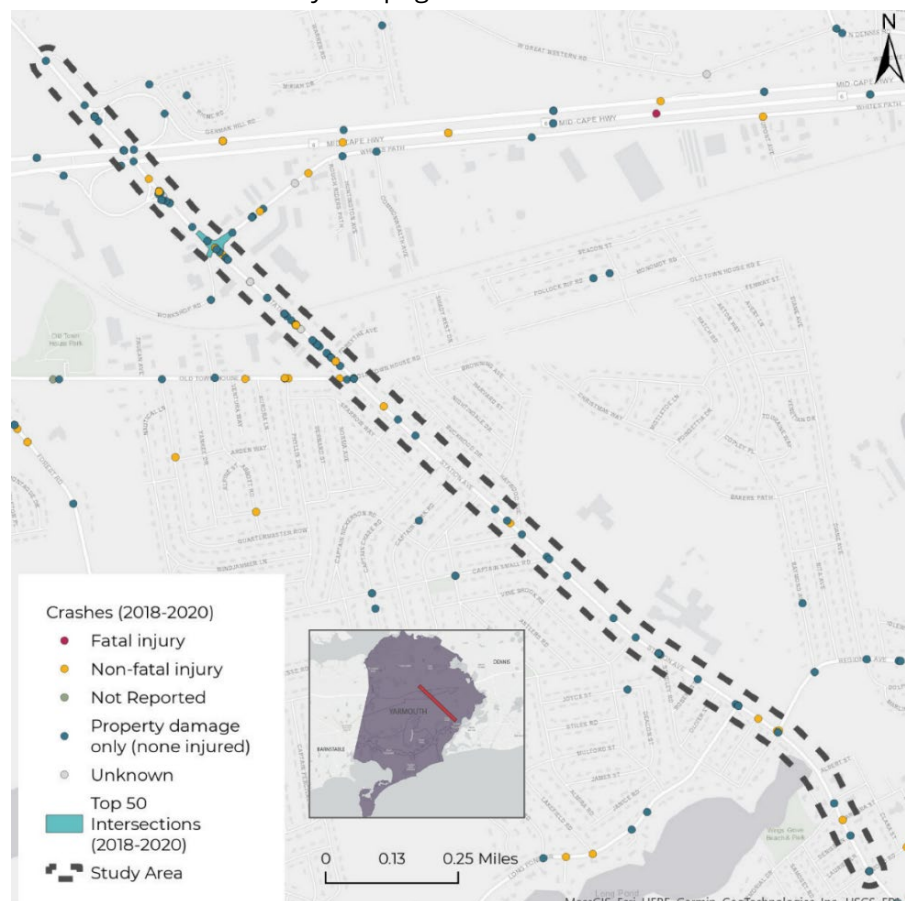


Figure 9: Crash History

TRAFFIC VOLUMES

Commission staff measured traffic volumes on Station Ave and within the study area in the Summer of 2022. Table 1 presents a summary of the traffic volumes within the study area.

Table 1: Traffic Volumes

ROADWAY	AADT ¹	SUMMER ADT ²
Station Ave N of Wood Rd	5,584	6,275
Station Ave N of Regional Ave	8,996	10,108
Station Ave S of Lakefield Rd	8,018	9,009
Station Ave S of Old Townhouse Rd	8,201	9,215
Station Ave N of CCRT Bridge	13,868	15,582
Union St N of Route 6	7,829	8,796
White's Path E of Station Ave	6,345	7,129
Workshop Rd W of Station Ave	1,210	1,359
Old Townhouse Rd W of Station Ave	7,884	8,859
Long Pond Dr W of Station Ave	3,517	4,627
Wood Road W of Geneva Rd	1,983	2,609

¹ *Average Annual Daily Traffic (AADT)*

² *Summer Average Daily Traffic*



Figure 10: Map of Traffic Counts Completed for the Corridor Study

Intersection turning movement counts (TMCs) were also conducted at various locations throughout the corridor, including both the Route 6 eastbound and westbound on- and off- ramp intersections at Station Ave. Staff also reviewed traffic studies and associated counts from the Season's Corner Market traffic study and the Dennis-Yarmouth Intermediate School Traffic Impact Analysis report.

Commission staff also performed a signal warrant analysis count at the intersection of Station Ave at Wood Road. The count was conducted over a 12-hour period to better determine if the intersection would be suitable for a full traffic signal. Turning movement count data is available in the Appendix and signal warrant details are in the Summary of Alternatives section.

EXISTING TRAFFIC OPERATIONS

An existing traffic operations inventory for each study area intersection was conducted for the weekday afternoon peak hour. Capacity analyses were performed by CCC Staff for all stop controlled and signalized intersections, including the Route 6 ramps, using Synchro software.



PUBLIC INFORMATIONAL MEETING

Cape Cod Commission Transportation Staff and the Town of Yarmouth hosted the first Public Information Meeting for the Station Ave Corridor project at Yarmouth Town Hall on Wednesday January 25, 2023. The meeting was a hybrid format which allowed attendees to be at the meeting in person or virtually on Zoom. The goal of the Public Informational Meeting was to provide an overview of the corridor study, including a review of existing conditions such as crash history, existing facilities, and previously completed work. Approximately 25 attended in person while 27 joined virtually.

After staff reviewed the corridor study, participants were invited to offer an opportunity to ask questions or provide feedback on the study. Participants spoke with Town and Commission staff around maps and provided suggestions or concerns about areas of interest throughout the corridor. All comments received during and after the meeting are included in the Appendix as well as the slides presented at the meeting.

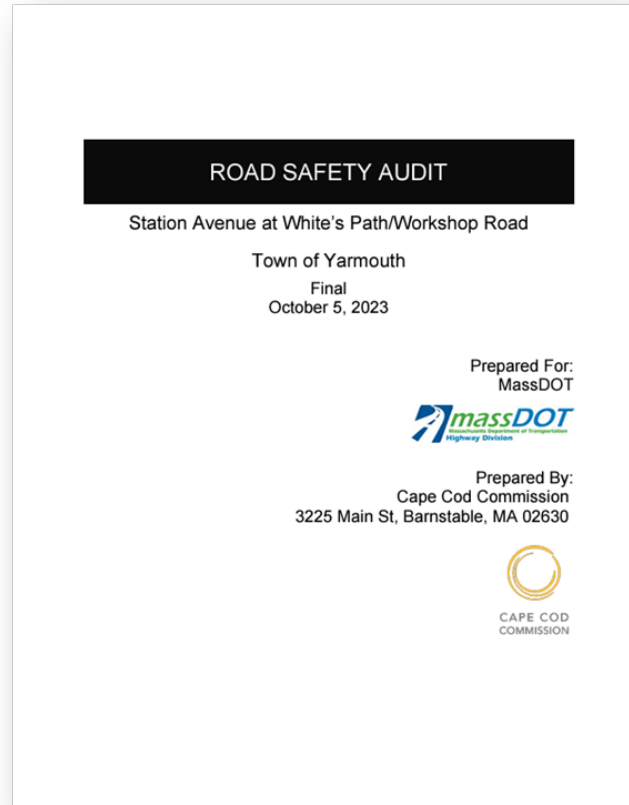


ROADWAY SAFETY AUDIT RECOMMENDATIONS

The RSA for the intersection of Station Avenue at White's Path/Workshop Road was conducted on October 5, 2023, and was a key component of the alternative's development process. An RSA is a formal safety review of an existing road or intersection and includes an independent, multidisciplinary technical team of state, regional and local officials.

As part of the RSA a thorough crash analysis was conducted of the high-crash location to summarize the data and identify the trends. Crash data was provided by the Yarmouth Police Department and was reviewed by the MassDOT Highway Safety Section. A collision diagram (see Figure 11) was prepared to locate and identify the types of crashes within the intersection. The majority of crashes were classified as rear-end crashes at the Station Ave approaches and did not result in any injuries.

During the audit, the multi-disciplinary team discussed the crash data in detail, identified safety issues, observed traffic operations in the field and brainstormed potential countermeasures to improve safety for all users. The team included representatives from the MassDOT Safety section, MassDOT District 5 office, the Town of Yarmouth Department of Public Works and Planning Department, Yarmouth Police Department, Yarmouth Fire Department, a bicycle representative, and the Cape Cod Commission. Below is a list of the key recommendations from the RSA, which were further analyzed as part of the alternative screening process for the corridor study. A link to the final RSA report can be found [here](#).



RSA Recommendations:

- Consider alternative intersection control strategies, including a roundabout.
- Evaluate existing lane assignments for Station Avenue approaches and consider modifications as needed, including the potential for two through lanes.
- Taper the two-way left-turn lane (TWLTL) to create a more easily identifiable left turn pocket northbound on Station Avenue.
- Install sidewalks on the west side of Station Avenue, providing a connection to the existing northern sidewalk.
- Consider the addition of bike lanes and/or separated bike lanes on Station Avenue.

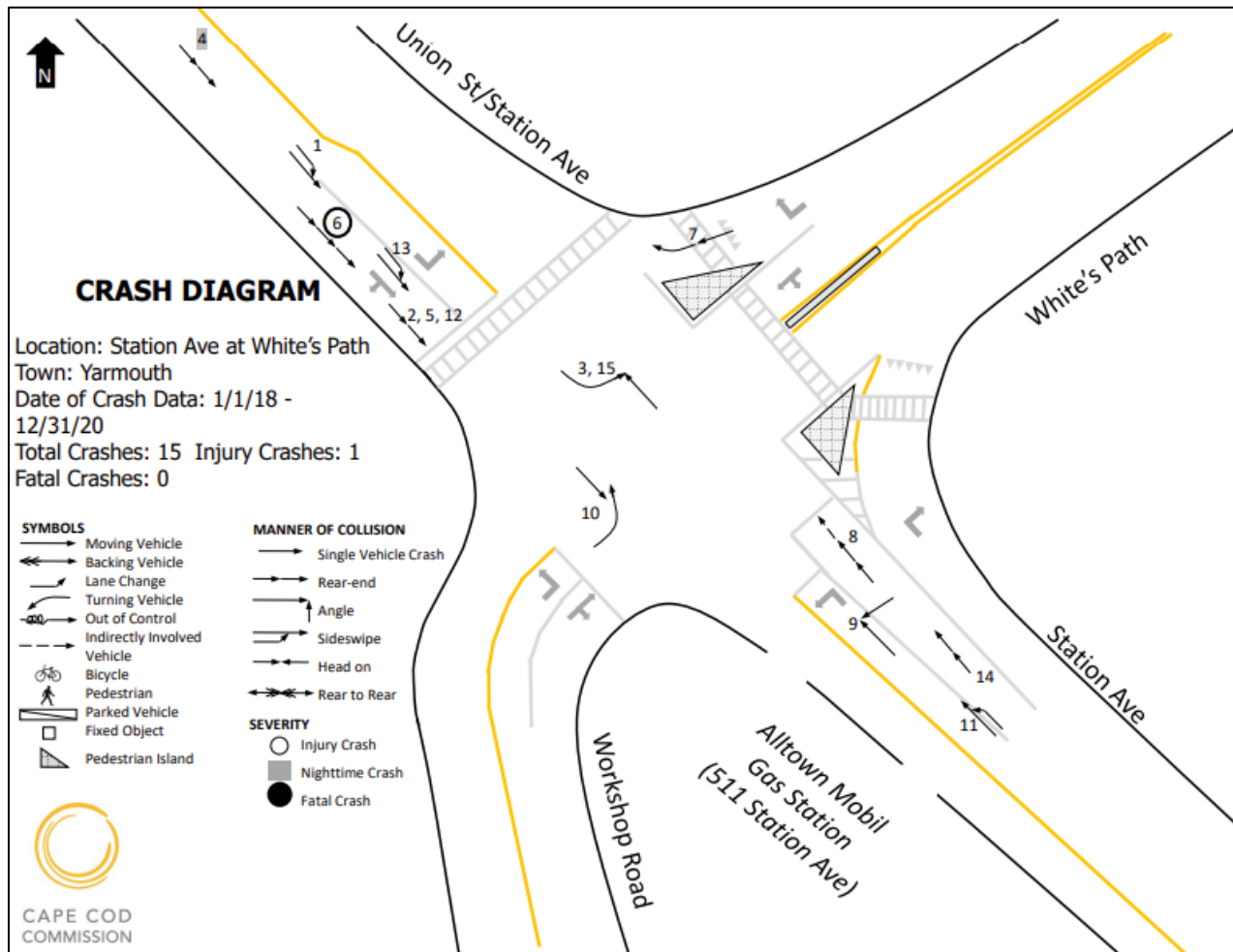


Figure 11: Station Ave at White's Path/Workshop Road Crash Diagram

Alternative Development

After reviewing the comments received at the Public Listening Session, Commission Staff worked on creating several potential alternatives that would improve safety for all roadway users as well as improve traffic flow along the corridor, particularly at key intersections.

Comments received from the meeting and via email are summarized below.

RAMP AREA

- Left turns are difficult from both ramps onto Station Ave
- Second southbound lane from EB ramp to White's Path
- Consider a cloverleaf interchange design
- Improved lighting
- Traffic lights at the ramp intersections

BUSINESS AREA

- Improve turning lane lengths at the Old Townhouse intersection
- Education on two-way left-turn lane
- No crosswalk from the rail trail parking lot across Station Ave
- Left turns out of Stop N Shop are difficult

DY REGIONAL SCHOOL AREA

- Sidewalk on both sides of the road
- Better bus and vehicle management during drop-off times
- Relocate utility pole at the DYHS Entrance
- Congestion during drop-off and pick-up times
- RRFBS at all crossings

EMAIL COMMENTS

- Include Wood Road and St. Pius in the corridor study
- Observe drop-off trends at the schools
- Improve safety at the Stop N Shop driveways
- Left turns out of Stop N Shop are difficult
- Improve traffic flow at the schools

FUTURE TRAFFIC VOLUMES

As part of the future analysis for the Station Avenue Corridor Study project, a ten-year future design year (2032) was assumed. A ten-year design year is appropriate when conceptualizing a major roadway infrastructure project to ensure the potential alternatives will be designed adequately. In order to account for future growth, a background growth rate was assumed and applied to the existing traffic volume data. The background growth rate was determined based on a review of CCC historical count data based on a review of the entire region and a review of historical trends in the town of Yarmouth. Based on our review, an annual background growth rate of 0.39% was selected and applied to develop the 2032 future traffic volumes.

It is important to note that based on traffic volumes collected by the Commission (see page 24), there is only a 10% increase in traffic along Station Ave during the peak summer season, highlighting the fact that congestion is a year-round issue along the corridor.

ALTERNATIVE IDENTIFICATION

Potential improvements were identified from suggestions from the Public Informational Meeting and a technical review of the issues present at each location. Commission staff, in consultation with Town staff, reviewed these possible improvements and developed the following set of potential improvements for further investigation:

STATION AVE AT ROUTE 6 WB RAMP

- Traffic Signal
- Roundabout
- Bike/Pedestrian accommodations

STATION AVE AT ROUTE 6 EB RAMP

- Traffic Signal
- Roundabout
- Bike/Pedestrian accommodations

STATION AVE AT WHITE'S PATH

- Traffic Signal Upgrades including lane reconfigurations
- Roundabout
- Bike/Pedestrian Accommodations
- Implement RSA short-term recommendations

STATION AVE AT CAPE COD RAIL TRAIL/CVS

- At grade crossing (Pedestrian Hybrid Beacon)
- Rail trail "off-ramp" on railroad right-of-way (ROW)
- Relocate utility pole on NW corner near CVS Driveway

STATION AVE AT OLD TOWNHOUSE ROAD

- Traffic signal upgrades (i.e. removing NB right-turn channelized lane)
- Extend SB right-turn lane
- Roundabout

STATION AVE NEAR THE DENNIS-YARMOUTH REGIONAL SCHOOLS

- Installation of a left-turn lane into DYHS
- Extend the shared use path north to Haywood Ave and south to Regional Ave.

STATION AVE AT WOOD ROAD

- Intersection improvements (traffic signal or all-way stop)
- Bike/Pedestrian accommodations
- Tree trimming to improve sight distance

PUBLIC REVIEW OF ALTERNATIVES

The public review of alternatives took place at the second public meeting at the Yarmouth Town Hall on December 13, 2023. The presentation provided a brief overview of the project, a summary of the issues and suggestions heard at the first public meeting held in January, and then an overview of the potential alternatives for the corridor and study area intersections.

Following the overview of the alternatives, attendees provided comments and feedback on each alternative by visiting three tables throughout the room. Each table had a different intersection or issue area for the corridor as follows: Route 6 Ramps, Business Area (including White's Path), and the DY Regional School Area. At each table, attendees provided feedback to staff whether they were in favor or not of the proposed alternatives. Attendees were able to ask questions and propose other ideas or suggestions as well. Attendees circulated to each table they were interested in.

Based on the public feedback provided, there were mixed reviews on the roundabout alternatives at the Route 6 at Station Ave ramps, some comments stated concerns over traffic flow through the roundabouts while others noted safety would be improved with the construction of roundabouts. There was support for the installation of traffic signals at the Route 6 at Station Ave ramps and many commentors noted the benefits for left-turning vehicles. There was also support for improved multi-modal accommodations including improved sidewalks and paths accessing the existing Cape Cod Rail Trail along the corridor. Many folks also noted the congestion around the DY Regional Schools area, particularly during morning drop-off times, and encouraged staff to consider an alternative to improve that area.

All comments received at the meeting and during the comment period following are included in the Appendix.



Summary of Alternatives

ALTERNATIVE REFINEMENT

The opinions and comments received during the December public meeting were used to refine the alternatives. The following section presents a summary of the alternatives developed as part of this study and identifies a relative time frame and cost estimate, and expected impacts in terms of safety, congestion, bicycle and pedestrian accommodations, and property impacts of each alternative.

In particular, a left-turn lane into Dennis-Yarmouth Regional High School was not presented at the alternatives meeting, but after further discussion and feedback from attendees, including the school Resource Officer, Commission staff worked to include a left-turn lane concept for the High School for review.

Table 2 summarizes the alternatives that were developed.

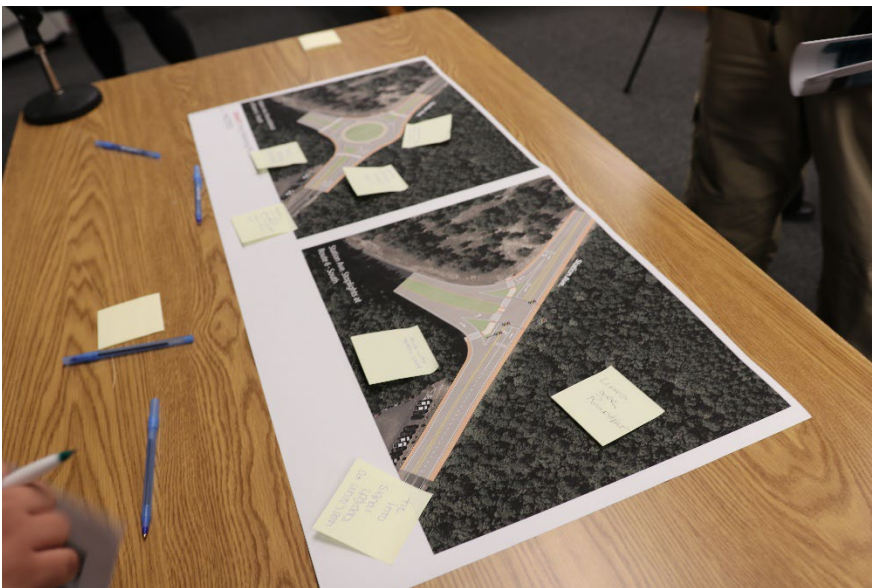


	TIME FRAME	COST	ANTICIPATED IMPACT							
			SAFETY		CONGESTION		BICYCLE/ PEDESTRIAN		PRIVATE PROPERTY	
STATION AVENUE AT ROUTE 6 RAMPS										
Traffic Signal WB Ramp	Long	\$\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
Traffic Signal EB Ramp	Long	\$\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
Roundabout WB Ramp	Long	\$\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
Roundabout EB Ramp	Long	\$\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
STATION AVENUE AT WHITE'S PATH/WORKSHOP ROAD										
Reconstruction of Intersection	Long	\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
Installation of Roundabout	Long	\$\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
STATION AVENUE AT OLD TOWNHOUSE ROAD										
Reconstruction of Intersection	Long	\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
Installation of Roundabout	Long	\$\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
STATION AVENUE AT DENNIS-YARMOUTH REGIONAL HIGH SCHOOL										
Installation of Left-Turn Lane	Mid	\$\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
CAPE COD RAIL TRAIL CROSSING TREATMENT										
Pedestrian Hybrid Beacon	Long	\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●
Off-Ramp from Existing Bridge	Long	\$\$\$	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●	● ● ●

Table 2: Summary of Alternatives

Table 3: Summary of Corridor-wide Alternatives

CORRIDOR CONCEPTS			
PEDESTRIAN CONCEPTS	BICYCLE CONCEPTS	TRANSIT CONCEPTS	OTHER CONCEPTS
<ul style="list-style-type: none"> Install a sidewalk along the west side of Station Ave from the Route 6 overpass south to Old Townhouse Rd. Construct missing sidewalk and shared use path gaps within study area 	<ul style="list-style-type: none"> Expanded shoulders where possible for bicycle accommodation Provide a signalized crossing at the rail trail or construct a ramp on the west side of Station Ave for cyclists to access businesses 	<ul style="list-style-type: none"> Consider a future CCRTA route to the Stop & Shop Plaza along Station Ave Promote CCRTA DART service to provide access to the Station Ave corridor 	<ul style="list-style-type: none"> Consider turn pockets instead of TWLTL on Station Ave Speed management Improved signage Installation of a shared use path in front of the DY school area



STATION AVENUE AT ROUTE 6 EASTBOUND RAMP

There are two potential long-term solutions to improve safety and traffic flow at the Route 6 Eastbound on/off ramp and Station Ave unsignalized intersection: a traffic signal and a roundabout. Both these alternatives were analyzed, and concept graphics are shown below.

The traffic signal alternative would create a new layout for the intersection to allow for a left-turn lane and a through lane in the northbound direction using the space that currently exists for a wide shoulder. The southbound approach would remain similar to today's alignment, with a free flow right-turn lane onto the Route 6 ramp and a through lane. The Route 6 off-ramp would have a signal-controlled right-turn lane. This concept also shows improved pedestrian crossings along the west side of the roadway and a new shared use path along the east side.

Improvements to safety, congestion and bicycle and pedestrian accommodations are high for this concept. Property impacts along the east side would be minimal but necessary to accommodate the shared use path. The traffic signal concept would be a long-term, high-cost approach to improving the intersection and is expected to provide adequate traffic operations. Coordination with the White's Path intersection signal would be reviewed during engineering design if a project is moved forward.

Figure 12 shows the traffic signal concept at the Route 6 Eastbound Ramp at Station Ave.

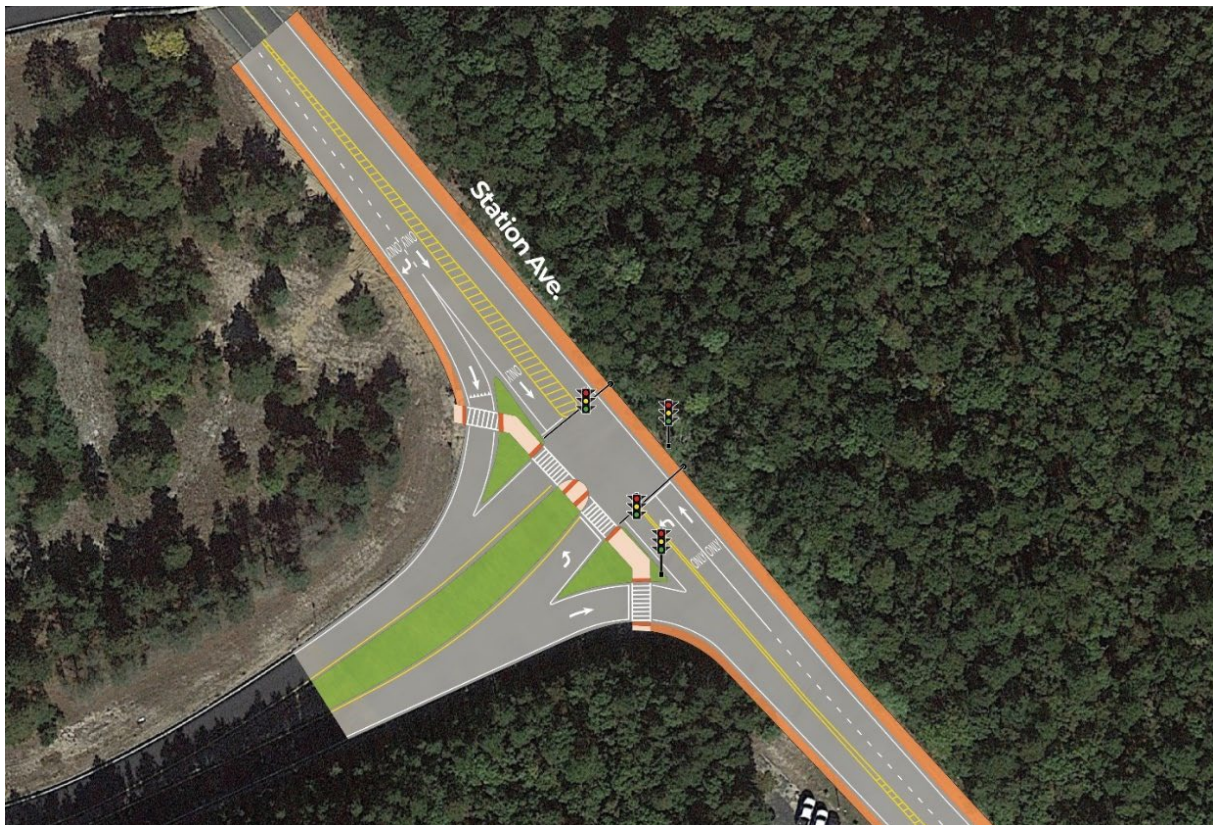


Figure 12: Traffic Signal Concept at Route 6 Eastbound Ramp at Station Ave

The roundabout alternative for the Route 6 Eastbound at Station Ave intersection also provides similar improvements to congestion and bicycle and pedestrian accommodations as the traffic signal concept, but improves safety even further by slowing speeds down. The roundabout concept would have slightly more property impacts than the traffic signal concept, but the adjacent property is likely owned by the State.

Similar to the signal concept, a two-lane approach heading northbound is proposed for the roundabout concept with a left-turn and a through lane, while the southbound and eastbound approaches are single lane approaches to the intersection. Pedestrian crossings are provided on all approaches with refuge islands and a shared use path is proposed for the east side of the roadway.

Figure 13 shows the roundabout concept at the Route 6 Eastbound Ramp at Station Ave.



Figure 13: Roundabout Concept at Route 6 Eastbound Ramp at Station Ave

STATION AVENUE AT ROUTE 6 WESTBOUND RAMP

Similar to the Route 6 eastbound ramps, there are two potential long-term solutions to improve safety and traffic flow at the Route 6 Westbound on/off ramp and Station Ave unsignalized intersection: a traffic signal and a roundabout. Both these alternatives were analyzed, and concept graphics are shown below.

The traffic signal alternative would create a new layout for the intersection to allow for a left-turn lane and a through lane in the southbound direction using the space that currently exists for a wide shoulder. The northbound approach would have a through and right-turn lane approaching the intersection. The Route 6 off-ramp channelized right-turn lane would remain. This concept also shows a new sidewalk along west side and a new shared use path on the east side with crossings across all Route 6 ramp approaches. The narrow width of the Route 6 bridge will cause the right turn lane to be shorter than recommended.

Improvements to safety, congestion and multimodal accommodations are high for this concept.. Property impacts along the east side would be minimal but necessary to accommodate the shared use path. The traffic signal concept would be a long-term, high-cost approach to improving the intersection and is expected to provide improved traffic operations.

Figure 14 shows the Route 6 Westbound at Station Ave traffic signal concept.



Figure 14: Traffic Signal Concept at Route 6 Westbound at Station Ave

The roundabout alternative for the Route 6 Westbound at Station Ave intersection also provides similar improvements to congestion as the traffic signal concept but improves safety and multimodal accommodations even further. The roundabout concept would have slightly more property impacts than the traffic signal concept, but the adjacent property is likely owned by the State.

Similar to the signal concept, a two-lane approach heading northbound is proposed for the roundabout concept with a right-turn and a through lane, while the southbound and westbound approaches are single lane approaches to the intersection. Pedestrian crossings are provided along all approaches with refuge islands. A shared use path is proposed for the east side of the roadway as well as a new sidewalk on the west side.

Figure 15 shows the roundabout concept at the Route 6 Westbound Ramp at Station Ave.

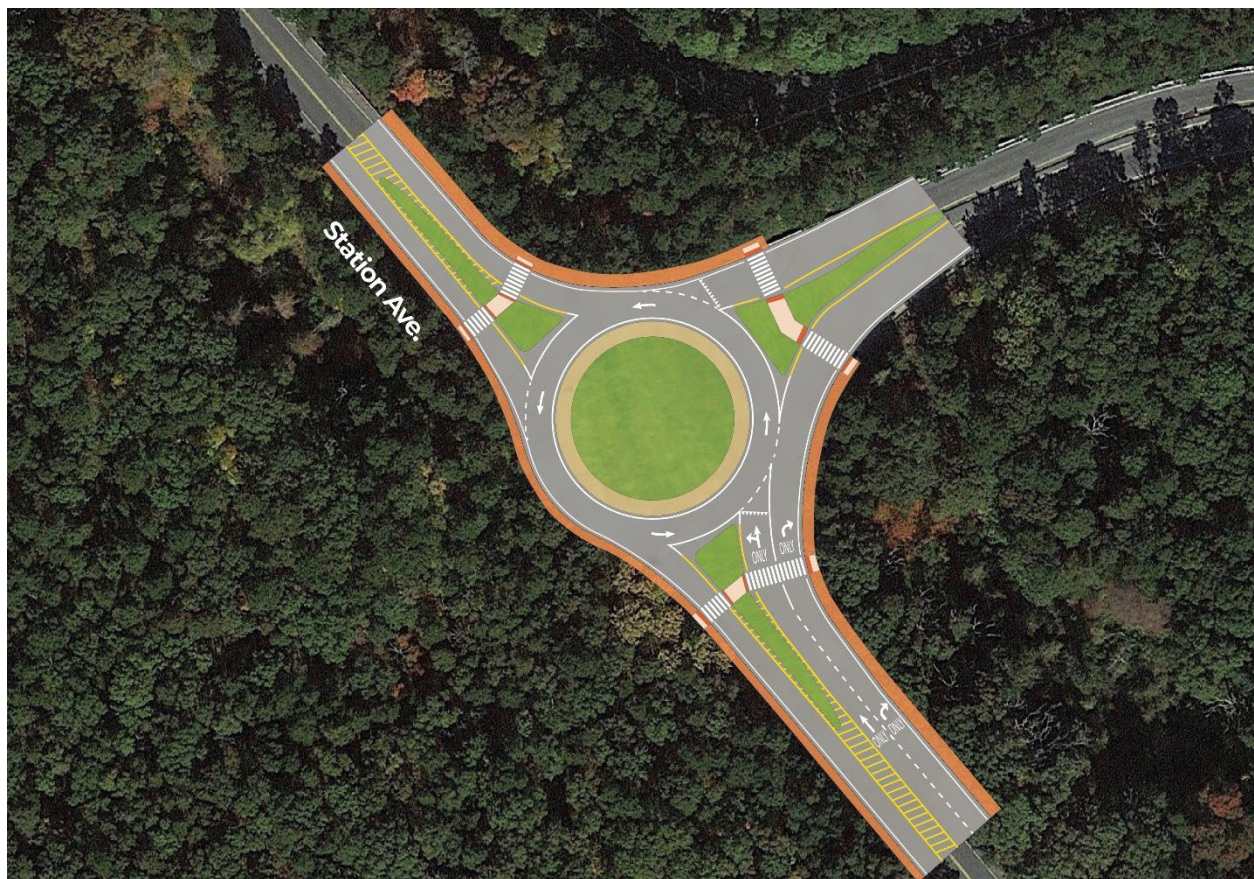


Figure 15: Roundabout Concept at Route 6 Westbound at Station Ave

STATION AVENUE AT WHITE'S PATH AND WORKSHOP ROAD

White's Path and Workshop Road intersect Station Ave as a signalized intersection roughly 600 feet south of the Route 6 Eastbound Ramp and is a major intersection serving numerous local businesses and industrial areas. The signalized intersection was reviewed for two major alternatives, a full intersection reconstruction and a modern roundabout.

The intersection reconstruction concept keeps the existing lane configuration for the Station Ave southbound approach and the Workshop Road approach and proposes to reconfigure the northbound Station Ave approach by removing the channelized right-turn lane and providing a second through travel lane that would be shared with right turns. By removing the channelized right turn lane, vehicle speeds would be reduced by forcing a 90-degree turn while also improving the pedestrian safety by eliminating the second unsignalized crosswalk. The White's Path approach also removes the channelized right-turn lane, again improving the pedestrian safety at the intersection and forcing right-turning vehicles to stop at the signal. The reconstruction concept proposes a new pedestrian crossing across Workshop Road with a sidewalk along the west side of Station Ave south of the intersection where sidewalk is not present today. A shared use path is proposed for the east side of the roadway. Overall, improvements to the signalized intersection are expected to provide improved traffic operations while improving safety.

Figure 16 shows the reconstruction concept at the White's Path and Workshop Road intersection.



Figure 16: Reconstruction Concept at the Station Ave at White's Path/Workshop Road

A roundabout concept was also reviewed for the White's Path and Workshop Road intersection, but it is not recommended to move forward at this time. The roundabout concept at this location would require significant property impacts and the potential improvements to congestion were minimal in comparison to the signal operations. Safety and bicycle and pedestrian accommodations would be high under this concept, but reconstruction of the intersection improves these areas to be the preferred alternative at this intersection.

STATION AVENUE AT CAPE COD RAIL TRAIL

Alternatives to improve the Cape Cod Rail Trail crossing were examined to include either an at-grade pedestrian hybrid beacon or an off-ramp from the existing bridge along the railroad right-of-way on the west side of the roadway.

The at-grade pedestrian hybrid beacon crossing would provide a stop-controlled signal when activated by a cyclist or a pedestrian crossing Station Ave. This crossing would allow users of the Cape Cod Rail Trail to more safely cross Station Ave and utilize the businesses on the west side of the roadway.

This concept has a positive impact on bicycle and pedestrian accommodations along the corridor and improves safety. Property impacts and vehicle congestion are unaffected by this alternative as the signal is only in use when activated by a pedestrian or cyclist. This concept is a long-term, high-cost alternative for consideration.

Alternatively, an off-ramp for the Cape Cod Rail Trail along the railroad right-of-way on the northwest side of the Rail Trail bridge was considered. The photo below shows an example of this type of ramp treatment at the Cape Cod Rail Trail bridge over Route 134 in Dennis.

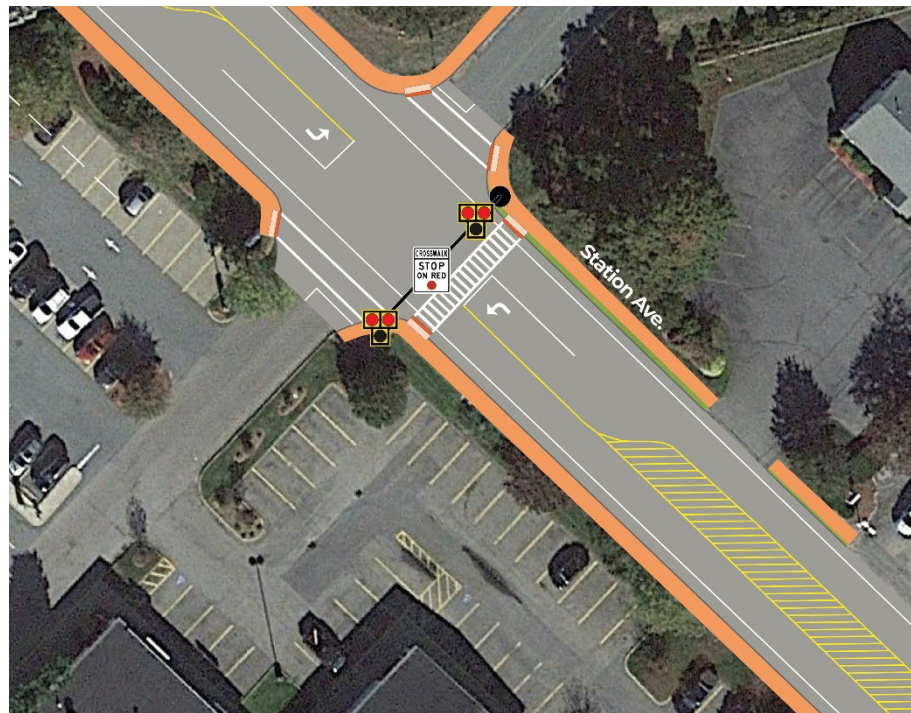


Figure 17: At-Grade Pedestrian Hybrid Beacon on Station Ave



Figure 18: Cape Cod Rail Trail Off-Ramp Route 134 Dennis.



Figure 19: Existing Railroad Right-of-Way on Station Avenue

STATION AVENUE AT OLD TOWNHOUSE ROAD

Old Townhouse Road intersects Station Ave just south of the business area and north of the DY Regional School area. To the east, Old Townhouse Road provides access to a residential neighborhood and to the west, provides access to several businesses, Peter Homer Park, and the transfer station. Currently, the intersection is signalized with channelized right-turn lanes on the Station Ave approaches.

Two alternatives were considered for this intersection, a minor reconstruction and a modern roundabout. The minor reconstruction concept removes the channelized right-turn on the northbound approach on Station Ave and brings the right-turns into the traffic signal as a shared through-right-turn lane. The location of the existing right-turn lane would be replaced with additional green space for landscaping and would improve the pedestrian crossing experience by shortening the distance to cross. Lengthening the distance of the southbound right-turn lane could also ease congestion backing up through the Forsythe Road intersection. Further analysis would be needed to see if this is necessary at this location.

Figure 19 shows the minor reconstruction concept at the Old Townhouse Road intersection



Figure 20: Minor Reconstruction Concept at Station Ave at Old Townhouse Road

Staff also analyzed a roundabout concept at the Old Townhouse Road intersection. Given the minor crash history at the intersection, safety was only improved slightly. The property impacts would likely be significant under this concept as well. Ultimately, it is not recommended that a roundabout be constructed at the Old Townhouse Road intersection.

For reference, Figure 20 shows what a roundabout concept would look like at the Old Townhouse Road intersection.



Figure 21: Roundabout Concept at the Station Ave at Old Townhouse Road Intersection- Not Recommended

STATION AVENUE AT DENNIS-YARMOUTH REGIONAL SCHOOL DISTRICT

The Dennis-Yarmouth Regional School District has three schools along Station Ave, the new Dennis-Yarmouth Intermediate School, Station Avenue Elementary School and Dennis-Yarmouth Regional High School which create brief periods of traffic congestion during school arrival and dismissal times. As part of the Intermediate School construction, a new traffic signal was recently installed on Station Ave at the Intermediate School driveway and a shared use path was also installed along the eastern side of Station Avenue along the Elementary School frontage. As mentioned previously, Commission Staff participated in a Safe Routes to School Walk Assessment for DY High School and the recommendations from that report are noted below.

Figure 21 shows a conceptual graphic for a potential southbound left-turn lane on Station Ave approaching the High School to help alleviate congestion for through traffic along Station Ave during the peak drop-off and pick-up times. The concept also recommends a shared use path be extended to Regional Ave to the south and Haywood Ave to the north to provide multimodal accommodations to encourage walking and bicycling to school.



Figure 22: Left-Turn Lane on Station Ave at Dennis-Yarmouth Regional High School

Other potential recommendations in the Dennis-Yarmouth School area include:

- Consider allowing only right-turns out of the high school during peak drop-off and pick-up times
- Consider marking a left-turn and right-turn lane on the northern driveway leaving the high school
- Consider a three-lane cross section on the southern driveway with a left-turn out lane, right-turn out lane and the entrance lane
- Consider a paved pull-off area on the northbound approach to get school-bound vehicles off Station Ave to reduce congestion
- Install a Rectangular Rapid Flashing Beacon (RRFB) in front of the High School and St. Pius X School/Parish
- Continue the involvement with the MassDOT Safe Routes to School program.

Recommendations from the Safe Routes to School Walk Assessment at Dennis-Yarmouth Regional High School include:

- Upgrade the curb ramps at the entrance of the High School at Station Ave, which are not ADA compliant.
- Consider strategically widening Station Ave for northbound right turning vehicles from Station Ave. to create a right turn lane. This would require using Town land.
- Consider replacing signage with a Rectangular Rapid Flashing Beacon (RRFB) to improve student visibility (crosswalk on Station Ave at the High School entrance).
- Create a shared-use path on the east (school) side of the street and link that to the existing path. Coordinate planning of that path with the additional right-turn pocket noted above*. The shared-use path crossing with the school entrances and exits should be raised, ensuring that students are elevated and more visible and requiring drivers to slow down.
- When possible, upgrade the "SCHOOL SPEED LIMIT 20 WHEN FLASHING" beacons (S5-1) signs for northbound and southbound motorists.
- Prohibit left-turning drivers from the school, at least during arrival and dismissal hours.
- Replace School Crossing Assemblies with arrows (S1-1 and W16-7P) and with an RRFB.



STATION AVENUE AT WOOD ROAD

Wood Road intersects Station Ave south of the Dennis-Yarmouth Regional School area and provides access to residential neighborhoods, Yarmouth Town Hall and the Massachusetts State Police Barracks South Yarmouth. Wood Road currently has an overhead flashing beacon and allows free flow traffic on the Station Ave approaches while the Wood Road minor approaches are under stop control.

As part of the alternatives analysis, Commission staff completed a signal warrant analysis for this intersection based on a 12-hour turning movement count that was collected. Based on the signal warrant analysis, the intersection did not meet the minimum volume requirements or crash history to warrant a signal be installed. At this time, we recommend the Town of Yarmouth consider making the intersection into an all-way stop condition taking into consideration future growth trends. Additional traffic counts will be needed to support this analysis.

Overall, recommendations for the intersection at Wood Road include:

- Installation of a crosswalk across the eastbound Wood Road approach connecting the existing sidewalk
- Consider expanding the shoulder width to accommodate bicycles
- Install retroreflective backplates on the overhead flasher to improve visibility
- Vegetation trimming of the hedges on the southeast corner of the intersection to improve sight distance



TWO-WAY LEFT-TURN LANE UPGRADES

The two-way left-turn lane (TWLTL) is located between the White's Path/Workshop Road intersection to the Old Townhouse Road intersection providing vehicles a shared turn lane before turning left into or out of a commercial driveway on Station Ave. The TWLTL has been noted and observed to be used as a passing lane for vehicles at times creating safety hazards for all users. Figure 22 shows a conceptual graphic of replacing the TWLTL with formal left turn lanes to discourage vehicles from travelling down the center of the roadway a travel lane. The removal of the TWLTL would improve safety and assist with slowing speeds by reallocating the roadway space for sidewalk and path improvements.



Figure 24: Turn Lane Concept Replacing the Two-Way Left-Turn Lane

PEDESTRIAN AND BICYCLE ACCOMMODATION ALTERNATIVES

The majority of bicycle and pedestrian accommodation alternatives for the corridor are covered under specific intersection location alternatives. Overall, a continuous sidewalk is recommended to be installed on the west side of Station Ave between the Route 6 westbound ramp and Old Townhouse Road. A shared use path is recommended on the east side of Station Ave from the Route 6 westbound ramp to the intersection of Old Townhouse Road, as well as, from Haywood Ave to Regional Ave in front of the schools, completing the existing path in that area. Installation of a sidewalk and a shared use path should have ADA complaint curb ramps and crossings to ensure bicyclist and pedestrian safety.

OTHER ALTERNATIVES

While only relatively minor issues were noted in the field, it is important that vegetation near the roadway continue to be well maintained to avoid obstructing the sightlines of motorists. Tree limbs that extend towards the roadways, and hedges and shrubs near intersections, need to be periodically trimmed. This is particularly important in locations where obstructions may compromise drivers' ability to see pedestrians and bicyclists. It was noted that left turns out of Wood Road and Haywood Ave are particularly challenging given vegetation concerns.

It is also recommended that MassDOT continue to clear the sand off sidewalks near the Route 6 ramps caused from runoff during rain events.

With regards to utilities, utility pole relocation at the driveway to the CVS plaza would increase sight distance looking northbound. Improved lighting was noted as an RSA recommendation for the White's Path/Workshop Road intersection, but lighting improvements could be beneficial underneath the Route 6 overpass and at the Route 6 ramp intersections.

Finally, access management improvements, such as reducing the number of left-turns out of businesses would improve safety along the corridor. The northernmost driveway for the Stop and Shop plaza and Mobil are good candidates to close to entering vehicles, allowing only vehicles to exit (right turn only) from that driveway. The Town should encourage businesses to create interconnections to limit the number of curb cuts on Station Ave and limit new businesses from having multiple curb cuts in the future.



Recommendations and Next Steps

With the benefit of active participation by members of the community, a host of potential improvement options were developed for the corridor. Based on a technical review and feedback from a public review of the alternatives, these improvements options were refined and organized into the following sets of key short- and long-term recommendations.

SHORT TO MID-TERM RECOMMENDATIONS

- Convert the TWLTL into formal left turn lanes with hatched areas to discourage motorist travel in the center of the roadway
- Improve lighting at the White's Path/Workshop Road intersection, under the Route 6 overpass, and at the Route 6 ramp intersections
- Install an at-grade crossing with a pedestrian hybrid beacon south of the Cape Cod Rail Trail parking lot
- Consider closing the northern Stop and Shop and Mobil driveways to entering vehicles and only allow right out turns
- Install a Rectangular Rapid Flashing Beacon (RRFB) at the crosswalk in front of Dennis-Yarmouth Regional High School and St. Pius X
- Consider an all-way stop at the Wood Road intersection
- Install a crosswalk across the eastbound approach at the Station Ave at Wood Road intersection
- Vegetation trimming on the southeast corner of the Wood Road intersection
- Relocate the utility pole on the northwest corner of the CVS plaza driveway (if a full roadway reconstruction project is pursued)
- Improve the sidewalk in front of Mitsubishi to include a curb to improve pedestrian safety
- Participate in the MassDOT Complete Streets program
- If future school expansions are considered, additional traffic counts and analysis may be needed along the corridor

LONG-TERM RECOMMENDATIONS

- Install a traffic signal or roundabout at the Route 6 eastbound ramp at Station Ave intersection
- Install a traffic signal or roundabout at the Route 6 westbound ramp at Station Ave intersection
- Reconstruct the White's Path/Workshop Road signalized intersection to remove the channelized right-turn lanes and improve the pedestrian crossings
- Remove the northbound channelized right-turn lane on Station Ave at the Old Townhouse Road intersection

- Lengthen the Station Ave southbound right turn lane to Old Townhouse Road
- Construct an off ramp from the Cape Cod Rail Trail on the west side of Station Avenue using the Railroad right-of-way (if Pedestrian Hybrid Beacon is not preferred)
- Construct a sidewalk along the west side of Station Ave from the Route 6 westbound ramp to Old Townhouse Road
- Construct a shared use path along the east side of Station Ave from the Route 6 westbound ramp to Old Townhouse Road
- Extend the existing shared use path along the west side of Station Ave to Haywood Ave to the north and to Regional Avenue to the south
- Construct a left-turn lane southbound in front of the high school
- Construct a paved pull-off area northbound approaching the high school to allow through traffic to avoid school traffic

Understanding that transportation and land use planning are inextricably linked, it may appropriate to refine or revise long-term recommendations as additional information about redevelopment activities in the area becomes available. The Cape Commission is available to discuss long-term



recommendations with MassDOT, the Town, and other stakeholders in the area including the business community. Ultimately, major transportation investments should both benefit the travelling public and serve to support and enhance the vitality of the community.

NEXT STEPS

The next steps would focus on collaboration between the Town of Yarmouth and MassDOT to prioritize implementation of the improvements to improve safety of the Station Ave corridor and the other study area intersections, including the Route 6 interchange intersections. Plans for long-term improvements can also be initiated to begin the planning process. Staff of the Cape Cod Commission are available to assist in these efforts. A future meeting between MassDOT, the Town and Commission staff can be set up in the near future to discuss next steps for implementation and funding strategies for the recommendations from this study.



Appendices

APPENDIX A: TRAFFIC COUNTS

APPENDIX B: EXISTING AND FUTURE VOLUME MODELS

APPENDIX C: ROUNDABOUT ANALYSIS

APPENDIX D: SAFE ROUTES TO SCHOOL WALK AUDIT

